

Physical challenges



- Handicapped and disabled
 - is it the person who is handicapped or disabled
 - or the environment or product which is handicapping or disabling them?
- Dependent
 - why is the individual dependent?
 - Why can't they do the task for themselves?
 - Can't we compensate for physical, sensory, cognitive impairments?

Sensory challenges

Paddington Station - Areas of no definition
Visibility for people with 85 – 100% vision



Signage
Tickets
Departure monitors
Seating
Ladies
Way Out

Work by Dr Hilary Balke and Dr Geoff Cook

Paddington Station - Areas of good definition Visibility for VIP's of 85 – 100%



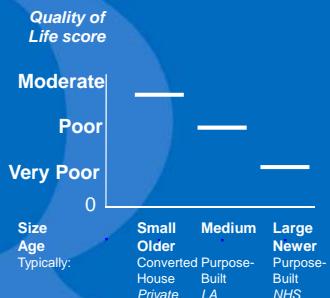
Cognitive challenges

Care Homes from different eras



Work by Judith Terrington & Professor Kevin Morgan

Quality of Life: by type of home



NB Staff Satisfaction scores follow a similar pattern

The engineering solution Designing for inclusion

- Creating Environments, Designing Products.....
 - which can be accessed, used and enjoyed by all people
 - regardless of physical, mental and cognitive ability
 - Inclusive Design
 - Universal Design
 - Design for All.....
- Assistive Technology





EPSRC – 1997 -
Engineering and Physical Sciences Research Council
EQUAL Initiative

- Built Environment
- Design for All
- Rehabilitation
 - Researchers
 - Intermediate Organisations
 - Interdisciplinary
 - Multi-professional
 - Older People

EQUAL - areas of activity
Developing the evidence base

- **Housing**
 - Design, adaptation, smart homes, telecare, independence
- **Accessibility**
 - Urban design, access, navigation systems, wheelchair issues, public transport
- **Design for All**
 - Product and packaging design, ergonomics, aiding designers
- **Hearing, Seeing**
 - Impact of colour & contrast, navigation in urban/complex environments
- **Cognition, Dementia, Learning Disabilities**
 - Stroke rehabilitation, housing for dementia, smart homes, care home design, reminiscence

Making a difference since 1998
Informing public policy

- **Improving:**
 - Building Regulations
 - British Standards
 - Professional Guidance Documents
 - Expectations
- **Supporting those who commission:**
 - Buildings and infrastructure
 - Transport systems
 - Consumer products
- **Assisting the professions:**
 - Design
 - Health
 - Social services
- **Aiding policy development:**
 - Housing
 - Transport
 - Care ...

The Scottish connection

- Some EQUAL examples
- **Professor Catharine Ward Thomson**
 - Edinburgh College of Art
 - Improving the design of the outdoor environment to enhance older people's quality of life
 - Major project also involving Salford and Oxford Brookes Universities
- **Professor Bernie Conway**
 - Strathclyde University
 - Assessing viability of building designs for wheelchair users using VR walkthroughs

The Scottish connection

- More examples
- **Dr Arlene Astell**
 - St Andrews University
 - Supporting communication with dementia patients through technology-assisted reminiscence
 - Assessing nutrition, mental health, physical and cognitive function of those at risk of under-nourishment, and developing interventions
- **Professor Alastair Macdonald**
 - Glasgow School of Art
 - Better data and tools for designers especially to inform better care and rehabilitation
 - Exploiting technologies to prevent malnutrition in older patients

Touchstones for success

- **Bottom-up not top-down**

- ageing is a new area for research
- the innovators are at the leading edge of science
- policy driven approaches fail to spot the opportunities for matching science and the needs of an ageing society

- **Ageing research thrives**

- when those with knowledge of leading edge of science become engaged with ageing issues
- when older people, practitioners from all walks of life and researchers get together
- on grassroots enthusiasm of researchers and their supporters who want to make a difference to the quality of life of older people.



SPARC

For the research community and its supporters in health, social and housing services, charities, voluntary agencies, local and central government, and amongst older and disabled people.....

SPARC - a community-led Initiative

- Focused on:
 - Encouraging new blood
- 2005 – 2008
- EPSRC & BBSRC - £1.6m
 - Design and engineering research
 - Biological research
 - All areas in between
- Three themes
 - Workshops for all comers
 - Advocacy
 - Pump-priming



Workshops

Showcasing research

- Examples
 - **Integrating Research on Ageing:** bridging the gap between biology, engineering, design and older people
 - Strathclyde University
 - **Ageing, Dementia and Cognitive Impairment - new perspectives in research, practice and caring**
 - Eli Lilly and Company
 - **Technologies for Health, Rehabilitation and Self Management of Long Term Conditions**
 - Bath Institute for Mechanical Engineering
 - **The Business Case for Ageing Research**
 - Unilever plc
 - **Living with Stroke**
 - Sheffield Hallam University
 - **Design research and its applications for ageing populations**
 - Glasgow School of Art, Yesterday!

Advocacy

Informing public policy

- Making the case that ageing research can and is making a difference
- Lobbying
- Developing a good track record
 - MPs do listen!
 - Two questions in Parliament on, Ageing Research and Older Workers
 - Royal Patronage
 - HRH The Princess Royal participated in *Ageing Research and Occupational Therapy: building partnerships, creating opportunities*
 - Ministers do listen (but Civil Servants only rarely!)



Capacity building awards

Developing the evidence base

- Small awards scheme for newcomers to ageing research
- 185 proposals total value £5.7m were considered in Summer 2005 & Spring 2006
- **34 were funded at total value £1.25m**
 - for superior scientific excellence and capacity building
 - for more information see posters and www.sparc.ac.uk

The 34 award holders



Areas of work

- Furniture Design
- Adaptations to the Home
- Product and Packaging Design
- Older Drivers
- Transport Planning involving older people
- Safer Urban Design in depressed areas
- The Organisation of Clinical Care (hip fracture)
- The Older Worker
- Making Computers easier to use
- Vision & Falls
- Diet, Exercise, Activity & Falls
- Cell Ageing
- **Stem Cells** etc etc

SPARC is very broad, it is spread very thinly!

SPARC in Scotland

Examples

Dr Maria Wolters

Edinburgh University



Synthetic speech, eg call centres



Dr Avril Thomson

Strathclyde University

Better designed packaging



Dr Richard Ferguson

Strathclyde University

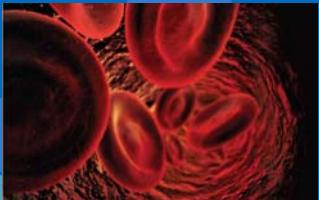
Exercise, muscle efficiency and effect of temperature





Dr Richard Hartley
Glasgow University

Radicals and the biology of damage to cells, tissues and organs




SPARC

“Where enthusiastic researchers meet the sharp end of practice and the realities of ageing and disability - the grass roots of living”



2009!

- December 2008 – SPARC ends
- January 2009 – KT-EQUAL begins
 - Workshops
 - Advocacy
 - Seamless transition
 - Even closer to policy makers and practitioners
 - Funded by EPSRC

Next steps

- Scotland is a centre for creative, exciting and valuable ageing research
 - Many young enthusiastic scientists
 - and some mature ones as well
 - They have a lot to offer
 - Your interest and encouragement would be repaid by an even greater commitment to improving the wellbeing and quality of life of older people
- Are you interested in how Scottish scientists really are changing the world in which older people live?
- If you would like to hear directly about their work then please let me know!

The ultimate aim



© Research into Ageing

RESEARCH INTO AGEING
21 Years of Coming of Age 1979 to 1999

www.equal.ac.uk

www.sparc.ac.uk